Economic Aspects of Medication Supply for Older Patients with Opioid-Substitution Therapy and Polypharmacy

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Background The number of older patients with opioid-substitution therapy (OST) and polypharmacy is rising globally. Alternative supply models to assist these patients with their medication management and optimize medication adherence are required. Higher adherence is associated with reduced overall healthcare costs and reduced hospitalisation risk. However, evidence about cost-effectiveness of adherence-enhancing interventions is sparse. Electronic medication management systems might offer a benefit to older drug users receiving polypharmacy.

Purpose We aimed at (a) performing a cost-of-illness (COI) evaluation of older patients with OST and polypharmacy and b) comparing a novel electronic medication supply model to usual care.

Method We estimated COI from a societal perspective during one year. Eligible patients attended an outpatient addiction service (OAS) in Basel (Switzerland), lived in stable housing near Basel city and received 3 or more medications and OST. Direct medical costs were obtained from health insurance records for the year 2014. Direct non-medical and indirect costs were estimated based on a survey of patients’ caregivers. For the cost-comparison model, we calculated the mean costs for a novel supply model with electronic remote supply of polypharmacy in unit-of-use pouches, estimated changes in direct medical costs based on available literature, and compared costs to usual care. A sensitivity analysis was performed based on the variability of cost items for the novel supply model.

Findings We included 29 patients (mean age of 47 ± 6.3 years, 6 ± 2 medications, 48.3% female) and health insurance records were available for 21 patients. None of the patients pursued a paid employment and 86% received disability benefits. Total yearly cost per patient was 109?611 Swiss Francs (SFr), with direct costs accounting for 30% of the total costs. With the novel supply model, total yearly costs per patient increased by SFr 2?509 for repackaging of medication, leasing of the dispenser, and time spent for travel, refill, and support (+ 2.2% compared to base case). According to sensitivity analysis overall costs did not substantially change with various estimations.

Conclusion Cost of illness for older patients with OST and polypharmacy is high, especially when considering indirect costs such as productivity loss due to disability. A novel electronic medication supply model increases overall costs marginally, but might offset the costs of more expensive alternatives such as homecare services and nursing homes. Further studies should evaluate the long-term benefits and cost-effectiveness of the novel supply model.